

Form PTO-1449 U.S. Department of Commerce (REV. 2-82) Patent and Trademark Office		Atty. Docket No. 070050.1370 (A32562)	Serial No. 09/838,862
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use several sheets if necessary)</i>		Applicant Ramadan et al.	
		Filing Date April 20, 2001	Group 2874

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OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

✓JR	T.A. Ramadan et al., "A Novel 1 x 4 Coupler-Multiplexer Permutation Switch for WDM Applications", J. Lightwave Technol., Vol. 18, No. 4, pp. 579-88, 2000.
✓JR	Y. Tachikawa et al., "Arrayed-Wavelength Grating Multiplexers with loop-back optical paths and its applications", J. Lightwave Tech., Vol. 14, pp. 97-84, 1996.
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<i>JTR</i>		W. Wakita, Semiconductor optical modulators, Kluwer Academic Publishers, 1998. <i>pp. vi - xi</i>
<i>JTR</i>		T.H. Wood, "Multiple quantum well (MQW) waveguide modulators", J. Lightwave Technol., Vol. 6, pp. 743 - 757, 1988.
<i>JTR</i>		K. Kawano, K. Wakita, O. Mitomi, I. Kataoka, and M. Naganuma, "Design of InGaAs-InAlAs multiple-quantum-well (MQW) optical modulators", IEEE J. Quantum Electron., Vol. 28, pp. 224 - 230, 1992.
<i>JTR</i>		R.W. Martin, S.L. Wongt, R.J. Nicholas, K. Satzke, M. Gibbon, and E.J. Thrush, "The design of quantum-confined stark effect modulators for integration with 1.55 μ m lasers", Semicond. Sci. Technol., Vol. 8, pp. 1173 - 1178, 1993.
<i>JTR</i>		M. Cada, B.P. Keyworth, J.M. Glinski, A.J. SpringThrope, C. Rolland, and K.O. Hill, "Electro-optic switching in a p-i-n doped multiple quantum well directional coupler", J. Appl. Phys., Vol. 69, pp. 1760 - 1762, 1991.
<i>JTR</i>		A. Stöhr, O. Humbach, S. Zumkley, G. Wingen, G. David, D. Jager, B. Ballig, E.C. Larkins, and J.D. Ralston, "InGaN/GaAs multiple-quantumwell modulators and switches", Opt. Quantum Electron., Vol. 25, pp. S865 - S883, 1993.
<i>JTR</i>		J.E. Zucker, I. Bar-Joseph, B.I. Miller, U. Koren, and D.S. Chemla, "Quaternary quantum wells for electro-optic intensity and phase modulation at 1.3 and 1.55 μ m", Appl. Phys. Lett., Vol. 54, pp. 10 - 12, 1989.
<i>JTR</i>		H.K. Tsang, J.B.D. Soole, H.P. LeBlanc, R. Bhat, and M.A. Koza, "Efficient InGaAsP/InP multiple quantum well waveguide optical phase modulator", Appl. Phys. Lett., Vol. 57, pp. 2285 - 2287, 1990.
<i>JTR</i>		J.S. Weiner, D.A.B. Miller, and D.S. Chemla, "Quadratic electro-optic effect due to quantum-confined Stark effect in quantum wells", Appl. Phys. Lett., Vol. 50, pp. 842 - 844, 1987.

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JTR		I.M. Skinner, R. Shail, and B.L. Weiss, "Modal propagation within MQW wave guides", IEEE J. Quantum Electron., Vol. 25, pp. 6 - 11, 1989.
JTR		R.A. Sammut and I.M. Skinner, "Effective index models for MQW waveguides", Opt. Commun., Vol. 76, pp. 213 - 216, 1990.
XR		G.M. Alman, L.A. Molter, H. Shen, and M. Dutta, "Refractive index approximations from linear perturbation theory for planar MQW waveguides", IEEE J. Quantum Electron., Vol. 28, pp. 650 - 657, 1992.
XR		B.M.A. Rahman, Y. Liu, and K.T.V. Grattan, "Finite-element modeling of one- and two-dimensional MQW semiconductor optical devices", IEEE Photon. Technol. Lett., Vol. 5, pp. 928 - 931, 1993.
XR		S. Adachi, "Optical properties of $In_{1-x}Ga_xAs_yP_{1-y}$ alloys", Phys. Rev. B, Vol. 39, pp. 12612 - 12621, 1989.
		W. Streifer, D.R. Scifres, and R.D. Burnham, "Optical analysis of multiple-quantum-well lasers", Appl. Opt., Vol. 18, pp. 3541 - 3548, 1979.
JTR		N. Osman, M. Koshiba, and R. Kaji, "A comprehensive analysis of multilayer channel waveguides", J. Lightwave Technol., Vol. 12, pp. 821 - 826, 1994.
JTR		D.A.B. Miller, J.S. Weiner, and D.S. Cbernla, "Electric-field dependence of linear optical properties in quantum well structures: Waveguide electroabsorption and sum rules", J. Quantum Electron., Vol. QE-22, pp. 1816 - 1830, 1986.
JTR		K. Komatsu, K. Hamamoto, M. Sugimoto, A. Ajisawa, Y. Kohga, and A. Suzuki, "4x4 GaAs/AlGaAs optical matrix switches with uniform device characteristics using alternating $\Delta\beta$ electrooptic guided-wave directional couplers", J. Lightwave Technol., pp. 871 - 878, 1991.
JTR		K. Hamamoto, S. Sugou, K. Komatsu, and M. Kitamura, "Extremely low loss 4x4 GaAs/AlGaAs optical matrix switch", Electron. Lett., pp. 1580 - 1582, 1993.

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JTR	P.J. Stevens, M. Whitehead, G. Parry, and K. Woodbridge, "Computer modeling of the electric field dependent absorption spectrum of multiple quantum well material", J. Quantum Electron., Vol. 24, pp. 2007 - 2016, 1988.
JTR	L.B. Soldano et al., "Optical Multi-Mode Interference Devices Based on Self-Imaging: Principle and Applications," J. Lightwave Technol., pp. 615-27, 1995.
JTR	D. Yevick et al., "Correspondence of Variational Finite-Difference (Relaxation) and Imaginary-Distance Propagation Methods for Modal Analysis," Opt. Lett., Vol. 17, pp. 329-30, 1992.
JTR	M. Jaros, "Physics and Applications of Semiconductor Microstructures," Oxford University Press, 1989.
JTR	R.L. Liboff, "Introductory Quantum Mechanics," Addison Wesley, 1992. pp. xi-xv
JTR	J. Singh, "Semiconductor Optoelectronics: Physics and Technology," McGraw Hill, 1995.
JTR	M.N. Khan et al., "Fabrication-Tolerant, Low-Loss, and High-Speed Digital Optical Switches in InGaAsP/InP Quantum Wells," ECOC'95 (IEEE Cat. No. 95TH8127), Vol. 1, pp. 103-06, 1995.
JTR	T.A. Ramadan et al., "Adiabatic Couplers: Design Rules and Optimization," J. Lightwave Technol., Vol. 16, pp. 277-83, 1998.
JTR	A. Bandyopadhyay et al., "Low-Voltage Vertical Directional Coupler Switch with Suppressed Electroabsorption", IEEE J. of Quantum Elec., Vol. 32, No. 6, pp. 1048-53, 1996.
JTR	H.A. Haus et al., "Approximate analysis of optical waveguide grating coupling coefficients", Applied Optics, Vol. 15, No. 3, pp. 774-81, 1976.
	R.C. Alferness et al., "Broadly tunable InGaAsP/InP buried rib waveguide vertical coupler filter", Appl. Phys. Lett. 60 (8), pp. 980-82, 1992.

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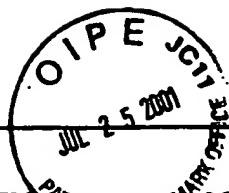
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JTC	Chi Wu, "A Vertically Coupled InGaAsP/InP Directional Coupler Filter of Ultranarrow Bandwidth", IEEE Phot. Technol. Lett., Vol. 3, No. 6, pp. 519-521, 1991.
JTC	Sakata et al., "Wavelength tuning in a grating-assisted vertical coupler filter using quantum well electrorefraction", Appl. Phys. Lett. 59 (24), pp. 3081-83, 1991.
	S.L. Chuang, "Physics of Optoelectronic Devices," John Wiley & Sons, 1995.

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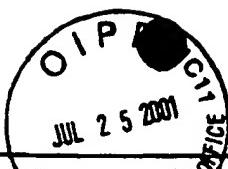
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<i>JR</i>	T.H. Wood, "Multiple quantum well (MQW) waveguide modulators", J. Lightwave Technol., Vol. 6, pp. 743 - 757, 1988.
<i>JR</i>	K. Kawano, K. Wakita, O. Mitomi, I. Kataoka, and M. Naganuma, "Design of InGaAs-InAlAs multiple-quantum-well (MQW) optical modulators", IEEE J. Quantum Electron., Vol. 28, pp. 224 - 230, 1992.
<i>JR</i>	R.W. Martin, S.L. Wongt, R.J. Nicholas, K. Satzke, M. Gibbon, and E.J. Thrush, "The design of quantum-confined stark effect modulators for integration with 1.55 μ m lasers", Semicond. Sci. Technol., Vol. 8, pp. 1173 - 1178, 1993.
<i>JR</i>	M. Cada, B.P. Keyworth, J.M. Glinski, A.J. Spring Thrope, C. Rolland, and K.O. Hill, "Electro-optic switching in a p-i-n doped multiple quantum well directional coupler", J. Appl. Phys., Vol. 69, pp. 1760 - 1762, 1991.
<i>JR</i>	A. Stöhr, O. Humbach, S. Zumkley, G. Wingen, G. David, D. Jager, B. Ballig, E.C. Larkins, and J.D. Ralston, "InGaNs/GaAs multiple-quantumwell modulators and switches", Opt. Quantum Electron., Vol. 25, pp. S865 - S883, 1993.
<i>JR</i>	J.E. Zucker, I. Bar-Joseph, B.I. Miller, U. Koren, and D.S. Chemla, "Quaternary quantum wells for electro-optic intensity and phase modulation at 1.3 and 1.55 μ m ", Appl. Phys. Lett., Vol. 54, pp. 10 - 12, 1989.
<i>JR</i>	H.K. Tsang, J.B.D. Soole, H.P. LeBlanc, R. Bhat, and M.A. Koza, "Efficient InGaAsP/InP multiple quantum well waveguide optical phase modulator", Appl. Phys. Lett., Vol. 57, pp. 2285 - 2287, 1990.
<i>JR</i>	J.S. Weiner, D.A.B. Miller, and D.S. Chemla, "Quadratic electro-optic effect due to quantum-confined Stark effect in quantum wells", Appl. Phys. Lett., Vol. 50, pp. 842 - 844, 1987.
<i>JR</i>	M. Born and E. Wolf, Principles of Optics, 5th Ed., Pergamon, 1975.
<i>JR</i>	I.M. Skinner, R. Shail, and B.L. Weiss, "Modal propagation within MQW wave guides", IEEE J. Quantum Electron., Vol. 25, pp. 6 - 11, 1989.
<i>JR</i>	R.A. Sammut and I.M. Skinner, "Effective index models for MQW waveguides", Opt. Commun., Vol. 76, pp. 213 - 216, 1990.

Examiner

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Ramadan et al.Filing Date
April 20, 2001Group
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<i>YR</i>	G.M. Alman, L.A. Molter, H. Shen, and M. Dutta, "Refractive index approximations from linear perturbation theory for planar MQW waveguides", IEEE J. Quantum Electron., Vol. 28, pp. 650 - 657, 1992.
<i>YR</i>	B.M.A. Rahman, Y. Liu, and K.T.V. Grattan, "Finite-element modeling of one- and two-dimensional MQW semiconductor optical devices", IEEE Photon. Technol. Lett., Vol. 5, pp. 928 - 931, 1993.
<i>JR</i>	S. Adachi, "Optical properties of $In_{1-x}Ga_xAs_yP_{1-y}$ alloys", Phys. Rev. B, Vol. 39, pp. 12612 - 12621, 1989.
	W. Streifer, D.R. Scifres, and R.D. Burnham, "Optical analysis of multiple quantum-well lasers", Appl. Opt., Vol. 18, pp. 3547 - 3548, 1979.
<i>JR</i>	N. Osman, M. Koshiba, and R. Kaji, "A comprehensive analysis of multilayer channel waveguides", J. Lightwave Technol., Vol. 12, pp. 821 - 826, 1994.
<i>JR</i>	D.A.B. Miller, J.S. Weiner, and D.S. Cbernla, "Electric-field dependence of linear optical properties in quantum well structures: Waveguide electroabsorption and sum rules", J. Quantum Electron., Vol. QE-22, pp. 1816 - 1830, 1986.
<i>JR2</i>	K. Komatsu, K. Hamamoto, M. Sugimoto, A. Ajisawa, Y. Kohga, and A. Suzuki, "4x4 GaAs/AlGaAs optical matrix switches with uniform device characteristics using alternating $\Delta\beta$ electrooptic guided-wave directional couplers", J. Lightwave Technol., pp. 871 - 878, 1991.
<i>JR2</i>	K. Hamamoto, S. Sugou, K. Komatsu, and M. Kitamura, "Extremely low loss 4x4 GaAs/AlGaAs optical matrix switch", Electron. Lett., pp. 1580 - 1582, 1993.
<i>JR</i>	P.J. Stevens, M. Whitehead, G. Parry, and K. Woodbridge, "Computer modeling of the electric field dependent absorption spectrum of multiple quantum wee material", J. Quantum Electron., Vol. 24, pp. 2007 - 2016, 1988.
<i>JR</i>	L.B. Soldano et al., "Optical Multi-Mode Interference Devices Based on Self-Imaging: Principle and Applications," J. Lightwave Technol., pp. 615-27, 1995.
<i>JR2</i>	D. Yevick et al., "Correspondence of Variational Finite-Difference (Relaxation) and Imaginary-Distance Propogation Methods for Modal Analysis," Opt. Lett., Vol. 17, pp. 329-30, 1992.

Examiner

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(A32562)

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09838862

Applicant
Ramadan et al.

Filing Date
April 20, 2001

Group
To Be Assigned

JKR		M. Jaros, "Physics and Applications of Semiconductor Microstructures," Oxford University Press, 1989.
JKR		R.L. Liboff, "Introductory Quantum Mechanics," Addison Wesley, 1992.
JKR		J. Singh, "Semiconductor Optoelectronics: Physics and Technology," McGraw Hill, 1995.
JKR		M.N. Khan et al., "Fabrication-Tolerant, Low-Loss, and High-Speed Digital Optical Switches in InGaAsP/InP Quantum Wells," ECOC'95 (IEEE Cat. No. 95TH8127), Vol. 1, pp. 103-06, 1995.
JKR		T.A. Ramadan et al., "Adiabatic Couplers: Design Rules and Optimization," J. Lightwave Technol., Vol. 16, pp. 277-83, 1998.
JKR		A. Bandyopadhyay et al., "Low-Voltage Vertical Directional Coupler Switch with Suppressed Electroabsorption", IEEE J. of Quantum Elec., Vol. 32, No. 6, pp. 1048-53, 1996.
JKR		H.A. Haus et al., "Approximate analysis of optical waveguide grating coupling coefficients", Applied Optics, Vol. 15, No. 3, pp. 774-81, 1976.
JKR		R.C. Alferness et al., "Broadly tunable InGaAsP/InP buried rib waveguide vertical coupler filter", Appl. Phys. Lett. 60 (8), pp. 980-82, 1992.
JKR		Chi Wu, "A Vertically Coupled InGaAsP/InP Directional Coupler Filter of Ultranarrow Bandwidth", IEEE Phot. Technol. Lett., Vol. 3, No. 6, pp. 519-521, 1991.
JKR		Sakata et al., "Wavelength tuning in a grating-assisted vertical coupler filter using quantum well electrorefraction", Appl. Phys. Lett. 59 (24), pp. 3081-83, 1991.
		S.L. Chuang, "Physics of Optoelectronic Devices," John Wiley & Sons, 1995.

Examiner

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